PPB

Polypropylene Film Capacitors for Power Semiconductor Circuits

- *Snubber Capacitor for Energy Conversion*
- *Power Semiconductor Circuits*
- *SCR Communication*
- *TV Deflection ckts.*
- *High Voltage*
- *High Current*
- *High Pulse Current Applications*

Operating Temperature Range		-55˚C to +105˚C					
Capacitance Tolerance		+/- 10% at 1kHz, 20˚C					
Rated Voltage	WVDC	250	400	630	1000	1600	2000
	VAC	160	250	400	600	650	700
		For T>85°C voltage must be rated by 1.25% for every °C above 85°C					

Dissipation Factor (max) at 20˚C.	Freq (kHz)	C≤0.1µF	0.1uF>C≤1µF	C>1µF
	1	.03%	.03%	.04%
	10	.05%	.06%	-
	100	.16%	-	-

Insulation Resistance @20˚C(<70% RH) for 1 minute at 100VDC	C≤0.33µF	≥100,000MΩ
	C>0.33µF	≥30,000MΩ x µF
Dielectric Strength	160% of rated VDC for 2 seconds at 20°C between leads	
Load Life	2000 hours at 85°C±2°C with 125% of rated voltage	
	Capacitance change	≤2% change from initial value
	Dissipation Factor	≤0.1% at 10kHz and 25°C for C≤1µF ≤0.1% at 1kHz and 25°C for C>1µF
	Insulation Resistance	≥50% of initial specified value
Self inductance	<1nH/mm of capacitor lead spacing	
Capacitance drift	<0.5% up to 40°C after 2 years	
Temperature Coefficient	-200ppm/˚C +/- 100ppm/˚C	
Reliability fit=1x10^9 Failures/component hours. Applied Voltage=0.5xVDC Temperature=+40°C±2°C	≤2FIT for WVDC≤400VDC ≤1FIT for WVDC>400VDC	
	Capacitance change	≤10% change from initial value
	Dissipation Factor	>2x initial specified value.
	Insulation Resistance	<0.005x initial specified value.
Dielectric	Polypropylene	
Electrodes	Vacuum deposited metal layers	
Construction	Extended double metallized carrier film, internal series connections and metallized film for VDC≥630Vdc.	
Leads	Tinned copper wire.	
Coating	Solvent resistant plastic box (UL94V-1) with epoxy end seals (UL 94V-0)	

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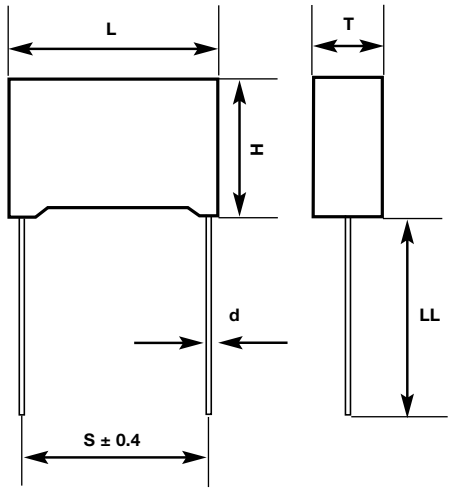
PHYSICAL DIMENSIONS

WVDC (VAC) / µF	250 (160)	400 (200)	630 (400)	1,000 (630)	1,600 (650)	2,000 (700)
0.001	→	→	→	→	→	26.5x15x6, 18x11x5
0.0015	→	→	→	→	→	26.5x15x6, 18x11x5
0.0022	→	→	→	→	18x11x5	26.5x15x6, 18x12x6
0.0033	→	→	→	18x11x5	18x12x6	18x13.5x7.5 26.5x15x6
0.0047	→	→	18x11x5	18x11x5	18x13.5x7.5	18x14.5x8.5 26.5x15x6
0.0068	→	→	18x11x5	18x11x5	18x14.5x8.5	18x16x10 26.5x15x6
0.01	→	→	18x11x5	26.5x15x6 18x12x6	18x12x6 26.5x15x6	26.5x17x8.5
0.015	→	→	18x11x5	18x13.5x7.5 26.5x15x6	26.5x16x7	26.5x18.5x10
0.022	→	→	18x12x6	18x14.5x8.5 26.5x15x6	26.5x17x8.5	26.5x22x13 32x20x11
0.033	→	18x11x5	18x13.5x7.5	26.5x16x7	26.5x18.5x10	32x22x13
0.047	18x11x5	18x12x6	18x16x10 26.5x15x6	26.5x17x8.5	26.5x22x13 32x20x11	32x24.5x15
0.068	18x12x6	18x13.5x7.5	26.5x16x7	26.5x18.5x10	32x22x13	32x28x14
0.1	18x13.5x7.5	18x14.5x8.5	26.5x17x8.5	26.5x22x13 32x20x11	32x28x14	32x33x18 42.5x28x17
0.15	18x14.5x8.5	18x16x10 26.5x16x7	26.5x20x11 32x20x11	32x22x13	32x33x18 42.5x28x17	42.5x30x22
0.22	18x16x10 26.5x15x6	26.5x18.5x10	32x22x13	32x28x14	42.5x28x17	42.5x37x28
0.33	26.5x17x8.5	26.5x20x11 32x17x9	32x24.5x15	32x33x18 42.5x28x17	42.5x30x22	
0.47	26.5x18.5x10	26.5x22x13 32x22x13	32x33x18 42.5x28x17	42.5x30x22	42.5x37x28	
0.68	26.5x20x11 32x20x11	32x24.5x15	42.5x28x17	42.5x37x28		
1	32x20x11 26.5x22x13	32x33x18 42.5x28x17	42.5x30x22	42.5x37x28		
1.5	32x24.5x15	42.5x28x17	42.5x37x28			
2.2	32x28x14 42.5x28x17	42.5x30x22				
3.3	42.5x30x22	42.5x37x28				
4.7	42.5x30x22					
6.8	42.5x37x28					

Convert to inches, divide by 25.4

LxHxT (mm)



L	18	26.5	32	42.5
S	15	22.5	27.5	37.5
d	0.8	0.8	0.8	1.0
LL	5.0±1.0	5.0±1.0	30±5.0	30±5.0

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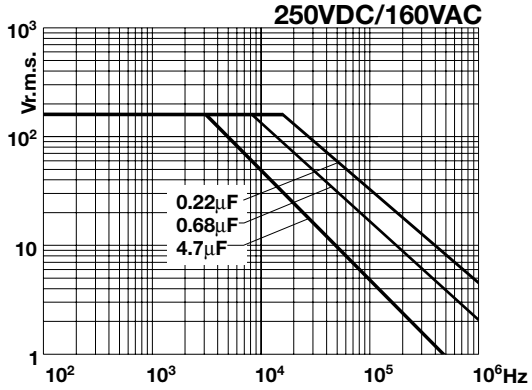
STANDARD PART LISTING

Capacitance (µF)	WVDC	IC PART NUMBER	dv/dt (v/µs)	Dimensions L x H x T (mm)
0.001	2000	**102PPB202K**	6200	26.5x15x6
0.001	2000	**102PPB202KE**	9000	18x11x5
0.0015	2000	**152PPB202K**	6200	26.5x15x6
0.0015	2000	**152PPB202KE**	9000	18x11x5
0.0022	1600	**222PPB162K**	7500	18x11x5
0.0022	2000	**222PPB202K**	6200	26.5x15x6
0.0022	2000	**222PPB202KE**	9000	18x12x6
0.0033	1000	**332PPB102K**	5500	18x11x5
0.0033	1600	**332PPB162K**	7500	18x12x6
0.0033	2000	**332PPB202K**	6200	26.5x15x6
0.0033	2000	**332PPB202KB**	9000	18x13.5x7.5
0.0047	630	**472PPB630K**	3300	18x11x5
0.0047	1000	**472PPB102K**	5500	18x11x5
0.0047	1600	**472PPB162K**	7500	18x13.5x7.5
0.0047	2000	**472PPB202K**	6200	26.5x15x6
0.0047	2000	**472PPB202KB**	9000	18x14.5x8.5
0.0068	630	**682PPB630K**	3300	18x11x5
0.0068	1000	**682PPB102K**	5500	18x11x5
0.0068	1600	**682PPB162K**	7500	18x14.5x8.5
0.0068	2000	**682PPB202K**	6200	26.5x15x6
0.0068	2000	**682PPB202KB**	9000	18x16x10
0.01	630	**103PPB630K**	3300	18x11x5
0.01	1000	**103PPB102K**	2600	26.5x15x6
0.01	1000	**103PPB102KE**	5500	18x12x6
0.01	1600	**103PPB162K**	3800	26.5x15x6
0.01	1600	**103PPB162KB**	7500	18x12x6
0.01	2000	**103PPB202K**	6200	26.5x17x8.5
0.015	630	**153PPB630K**	3300	18x11x5
0.015	1000	**153PPB102K**	2600	26.5x15x6
0.015	1000	**153PPB102KB**	5500	18x13.5x7.5
0.015	1600	**153PPB162K**	3800	26.5x16x7
0.015	2000	**153PPB202K**	6200	26.5x18.5x10
0.022	630	**223PPB630K**	3300	18x12x6
0.022	1000	**223PPB102K**	2600	26.5x15x6
0.022	1000	**223PPB102KB**	5500	18x14.5x8.5
0.022	1600	**223PPB162K**	3800	26.5x17x8.5
0.022	2000	**223PPB202K**	4200	32x20x11
0.022	2000	**223PPB202KG**	6200	26.5x22x13
0.033	400	**333PPB400K**	910	18x11x5
0.033	630	**333PPB630K**	3300	18x13.5x7.5
0.033	1000	**333PPB102K**	2600	26.5x16x7
0.033	1600	**333PPB162K**	3800	26.5x18.5x10
0.033	2000	**333PPB202K**	4200	32x22x13
0.047	250	**473PPB250K**	560	18x11x5
0.047	400	**473PPB400K**	910	18x12x6
0.047	630	**473PPB630K**	2050	26.5x15x6
0.047	630	**473PPB630KB**	3300	18x16x10
0.047	1000	**473PPB102K**	2600	26.5x17x8.5
0.047	1600	**473PPB162K**	2700	32x20x11
0.047	1600	**473PPB162KG**	3800	26.5x22x13
0.047	2000	**473PPB202K**	4200	32x24.5x15
0.068	250	**683PPB250K**	560	18x12x6
0.068	400	**683PPB400K**	910	18x13.5x7.5
0.068	630	**683PPB630K**	2050	26.5x16x7
0.068	1000	**683PPB102K**	2600	26.5x18.5x10
0.068	1600	**683PPB162K**	2700	32x22x13
0.068	2000	**683PPB202K**	4200	32x28x14
0.1	250	**104PPB250K**	560	18x13.5x7.5

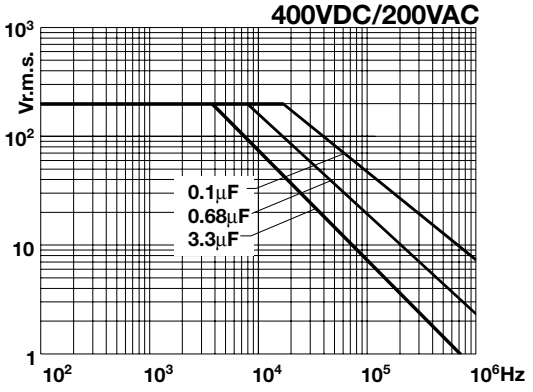
Capacitance (µF)	WVDC	IC PART NUMBER	dv/dt (v/µs)	Dimensions L x H x T (mm)
0.1	400	**104PPB400K**	910	18x14.5x8.5
0.1	630	**104PPB630K**	2050	26.5x17x8.5
0.1	1000	**104PPB102K**	1850	32x20x11
0.1	1000	**104PPB102KG**	2600	26.5x22x13
0.1	1600	**104PPB162K**	2700	32x28x14
0.1	2000	**104PPB202K**	2600	42.5x28x17
0.1	2000	**104PPB202KB**	4200	32x33x18
0.15	250	**154PPB250K**	560	18x14.5x8.5
0.15	400	**154PPB400K**	520	26.5x16x7
0.15	400	**154PPB400KH**	910	18x16x10
0.15	630	**154PPB630K**	1500	32x20x11
0.15	630	**154PPB630KG**	1500	26.5x20x11
0.15	1000	**154PPB102K**	1850	32x22x13
0.15	1600	**154PPB162K**	1700	42.5x28x17
0.15	1600	**154PPB162KB**	2700	32x33x18
0.15	2000	**154PPB202K**	2600	42.5x30x22
0.22	250	**224PPB250K**	320	26.5x15x6
0.22	250	**224PPB250KB**	560	18x16x10
0.22	400	**224PPB400K**	520	26.5x18.5x10
0.22	630	**224PPB630K**	1500	32x22x13
0.22	1000	**224PPB102K**	1850	32x28x14
0.22	1600	**224PPB162K**	1700	42.5x28x17
0.22	2000	**224PPB202K**	2600	42.5x37x28
0.33	250	**334PPB250K**	320	26.5x17x8.5
0.33	400	**334PPB400K**	520	26.5x20x11
0.33	400	**334PPB400KH**	400	32x17x9
0.33	630	**334PPB630K**	1500	32x24.5x15
0.33	1000	**334PPB102K**	1200	42.5x28x17
0.33	1000	**334PPB102KB**	1850	32x33x18
0.33	1600	**334PPB162K**	1700	42.5x30x22
0.47	250	**474PPB250K**	320	26.5x18.5x10
0.47	400	**474PPB400K**	400	32x22x13
0.47	400	**474PPB400KG**	520	26.5x22x13
0.47	630	**474PPB630K**	950	42.5x28x17
0.47	630	**474PPB630KB**	1500	32x33x18
0.47	1000	**474PPB102K**	1200	42.5x30x22
0.47	1600	**474PPB162K**	1700	42.5x37x28
0.68	250	**684PPB250K**	240	32x20x11
0.68	250	**684PPB250KB**	320	26.5x20x11
0.68	400	**684PPB400K**	400	32x24.5x15
0.68	630	**684PPB630K**	950	42.5x28x17
0.68	1000	**684PPB102K**	1200	42.5x37x28
1	250	**105PPB250K**	240	32x20x11
1	250	**105PPB250KG**	320	26.5x22x13
1	400	**105PPB400K**	280	42.5x28x17
1	400	**105PPB400KB**	400	32x33x18
1	630	**105PPB630K**	950	42.5x30x22
1	1000	**105PPB102K**	1200	42.5x37x28
1.5	250	**155PPB250K**	240	32x24.5x15
1.5	400	**155PPB400K**	280	42.5x28x17
1.5	630	**155PPB630K**	950	42.5x37x28
2.2	250	**225PPB250K**	240	32x28x14
2.2	250	**225PPB250KB**	170	42.5x28x17
2.2	400	**225PPB400K**	280	42.5x30x22
3.3	250	**335PPB250K**	170	42.5x30x22
3.3	400	**335PPB400K**	280	42.5x37x28
4.7	250	**475PPB250K**	170	42.5x30x22
6.8	250	**685PPB250K**	170	42.5x37x28

PERMISSIBLE AC VOLTAGE VS.FREQUENCY

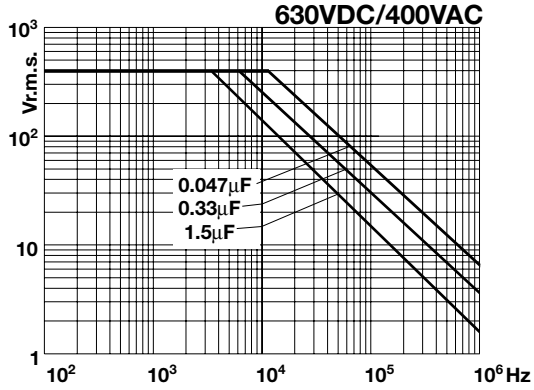
250VDC/160VAC



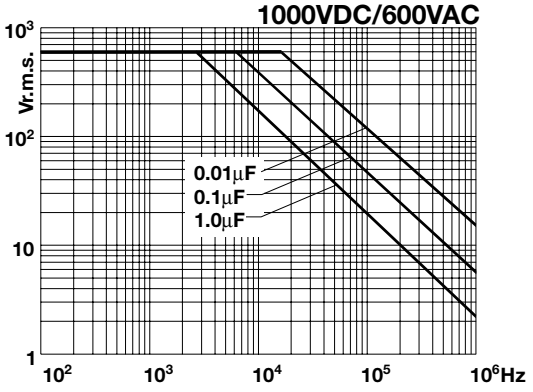
400VDC/200VAC



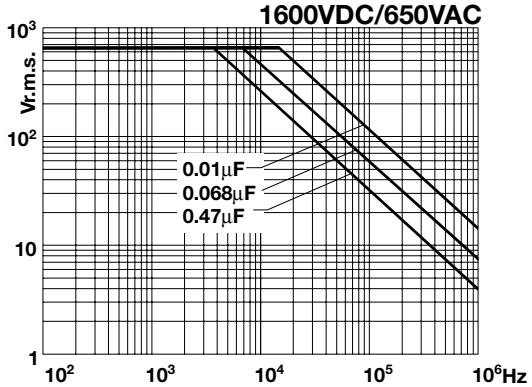
630VDC/400VAC



1000VDC/600VAC



1600VDC/650VAC



2000VDC/700VAC